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ABSTRACT

Thirty-two Afro-American and 50 Mexican-American seventh graders were randomly selected from a school located in a central Texas low socioeconomic environment. The subjects were administered the New Developmental Reading Tests, The Silent Reading Diagnostic Tests, and The California Short-Form Test of Mental Maturity. When the two groups were compared, results from variance analyses indicated (1) there were no significant differences on all total test and subtest scores, (2) the Mexican-Americans averaged 4.29 months older, and (3) the Mexican-American group averaged 2.62 more children in the family. Chi-square analyses showed that (1) the Mexican-American group had more male heads of family ($p<.01$), (2) the Afro-American group had more broken homes ($p<.01$), and (3) there was no significant difference in terms of welfare assistance. The average scores of both groups ranged from 1/2 to 3 1/2 years below grade level except for visual analysis and syllabication. Both groups achieved higher scores for visual analysis than for phonics knowledge and for nonlanguage IQ than for language IQ. The author concluded that since both groups exhibit similar profiles in reading subskills, they could both profit equally from comparable instruction. Tables and references are included. (AW)

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# Reading Skills of Afro - and Mexican-American Students

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It is generally recognized that reading problems often are related to limited language development. Similarly, reading and language problems tend to be associated with low socio-ecomonic status. According to Deutsch (8), the language-symbolic process is of primary importance at all levels of learning. It seems that language development is affected by many problems related to stimulus deprivation. Such deprivation is generally characteristic of low socio-economic (SE) environments. In a pioneer study, Coleman (6) investigated the relationship between the SE level of junior high school students and their success in school. His results indicated that children from the higher SE levels consistently excelled in reading. Worley and Story (14) examined the relationship between language facility and SE level. They found that children with a low SE background had a significant language disadvantage. Hill and Giammateo (9) found

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a strong positive correlation between high SE level and high levels of school achievement. The high SE group was found to be seven months more advanced than the low group in the total scores of the subtests of the Iowa Tests of Basic Skills.

When a child is not only from a low SE background, but also speaks "non-standard," little, or no English before entering school, success in school would appear to be even more determined by his language and reading development. Arnold and Wist (2) conducted research which indicated that members of an ethnic minority group (i.e. Mexican-American) encounter problems in auditory discrimination of English sounds. Auditory discrimination appears to be an important factor in the aquisition of reading skills. Deutsch (7) and Katz and Deutsch (11) found a strong relationship between auditory discrimination and poor reading skills for disadvantaged Negro children.

Another area of concern which deals with the assessment of reading skills for the disadvantaged youth is whether the intelligence and reading tests are appropriate when studying the culturally different child. Horn (10) investigated the suitability of instruments which measure intelligence and reading readiness. His results confirm the notion that tests which are normed to the middle-class Caucasian student are inappropriate for measuring the skills of the child who comes from a family where English is not the main language used. Arnold (1) investigated the reliability of tests that had been normed on a middle class population. His sample was composed of third grade culturally disadvantaged "bi-lingual" Mexican-American children. His findings revealed that at the third grade the Metropolitan Achievement Test and the Inter-American Reading Test possess satisfactory reliability if the appropriate level of the test is administered. (In this case, a second grade test was administered to third grade children).

Unfortunately, little research has been done to compare two disadvantaged minority ethnic groups in order to determine whether these groups have similar reading problems. Most previous research in this area has utilized survey-type achievement tests for general reading. Such tests usually yield reading scores from one or two subtests. That research has not been specific enough to be of great help to educators who wish to design compensatory reading programs.

The focus of this study is a two-fold comparison of two disadvantaged minority groups; namely Mexican-Americans and Afro-Americans. The purposes of the study are to: 1) determine if the various reading subskills of the two groups are essentially the same and 2) identify, for each ethnic group, possible strengths and weaknesses in the several reading subskills. Such information should aid in considering the extent and type of reading lessons that students from different ethnic and cultural backgrounds may require.

## PROCEDURE

The study was conducted in a junior high school located in a central Texas city. The area surrounding the school is characterized by substandard housing and other indicators of a low SE level. The school population consisted of a majority of Mexican-American students, although a small percentage of Afro-Americans were enrolled. The pool of Afro-Americans from which the sample was taken was limited. Consequently, the sample included 32 Afro-American children and 50 Mexican-American children randomly sampled from the seventh grade classes.

The measures of reading ability utilized in the study were: 1) The New Developmental Reading Tests for the Intermediate Grades, Form IR-A (3). This test yielded five subtests which related to reading comprehension. The

rationale responsible for choosing the intermediate level of this test was based on experience which indicated that children of Mexican-American and Afro-American backgrounds read considerably below their assigned grade level (1). 2) The Silent Reading Diagnostic Tests, Form D-A (4). This battery of tests included 11 subtests, each of which examined a child's word recogniton ability. Bliesmer (5) evaluated this test battery as an excellent tool for detailed diagnosis of children's reading skills. Similarly, McCall's (12) research indicated that this battery of tests has much potential for aiding the diagnosis of reading problems. 3) The California Short-Form Test of Mental Maturity (13). This test was used to gain information on language and non-language and total I.Q. scores.

The New Developmental Reading Tests for Intermediate Grades, Form IR-A was administered to the subjects in September. The Silent Reading Diagnostic Test was administered the following week. In October, the California Short-Form Test of Mental Maturity was administered.

## ANALYSES

The statistical analyses utilized in this study were analysis of variance and chi-square. A one-way analysis of variance was computed for testing the difference between each group on each subtest and the total of the subtest scores on the New Developmental Reading Test for the Intermediate Grades, the Silent Reading Diagnostic Tests, and the California Short-Form Test of Mental Maturity. Analysis of variance was also used to calculate group differences on the variables of chronological age and number of children in the family. Chi-squares were computed on the variables of sex of the head of the family, the incidence of broken homes, and whether or not welfare assistance was received by

the families.

## RESULTS

Table 1 shows the analyses of variance computed on the data.

[Insert Table 1 about here]

Results from the analyses of variance indicate: 1) On all total test and subtest scores, no significant differences were found between the two ethnic groups; 2) the Mexican-American group averaged 4.29 months older the the Afro-American group ($p < .02$); 3) the Mexican-American group averaged 2.62 more children in the family than the Afro-American group ($p < .001$).

Tables 2, 3, and 4 show the chi-square values for sex of the head of the family, the incidence of broken homes, and whether or not welfare assistance was received.

[Insert Tables 2, 3, and 4 about here]

Results from the chi-square analyses indicated: 1) The Mexican-American group had a higher incidence of male heads of family ($p < .01$); 2) the Afro-American group had a higher number of broken homes ($p < .01$); and 3) there was no statistically significant difference between the two groups on whether or not welfare assistance was received.

## DISCUSSION

Based on the above findings, it may be inferred that: 1) Mexican-American children in the seventh grade operate at approximately the same level of reading as the Afro-American children in the same grade; 2) the statistically significant difference in chronological age found between the two ethnic groups suggests that the findings of this study might have been different had the students been

compared by chronological age rather than by grade level; 3) the average reading scores of both groups ranged from 1½ to 3½ years below the normed grade level except for Total Visual Analysis and Syllabication scores.

When looking at the reading subtest scores, both ethnic groups achieved grade level equivalents of less than mastery (4.3) for Total Phonetic Knowledge and mastery (6.0+) for Total Visual Analysis. This suggests that both groups utilize visual analysis skills to a much greater extent than phonic skills. Perhaps this is due to the lack of development in their oral language related skills.

Data from the intelligence test indicated that for both groups, Non-Language subscores (95.26 and 91.53 for the Mexican-American and Afro-American children, respectively) were higher than the Language subscores (86.62 and 88.13 for the Mexican-American and the Afro-American children, respectively). This finding coupled with the results that the visual analysis skills are stronger than the phonic skills in reading further support the notion that both groups of children have language related problems.

Careful consideration should be given to the findings that no significant differences resulted when the two groups were compared at the seventh grade level, except that the Mexican-Americans were more than 4 months older than the Afro-Americans. This suggests that when Mexican-American children reach the seventh grade they are equal with the Afro-Americans in terms of language development, but they have taken longer to attain this level of efficiency. This could lead one to believe that for Mexican-American children, the deficiency in English is more severe. An explanation could be that teachers have more difficulty in understanding the speech of the Mexican-American children. Consequently, these children may be more frequently retained in the lower grades than the Afro-American children.

This study appears to reflect the problems reported in the literature: children from an ethnic minority group have limited vocabulary and language development. Perhaps this is due to the different types (in terms of "standard" English) of verbal communication within the homes and communities. Since these children generally speak "nonstandard" or limited English, they may employ speech sounds and patterns dissimilar to those typically spoken in school and reflected in texts. Since language facility is related to reading achievement, and since these children differ from the normal readers in language related skills, it would seem important for instructors to emphasize the use of oral English language in their teaching.

Probably the most interesting information derived from this study is that both the Mexican-Americans and the Afro-Americans, despite their differences in cultural backgrounds, exhibit similar profiles in reading subskills. The similarity of the average scores suggests that the two groups could profit equally from comparable instruction.

However, in view of the difference in chronological age between the two groups, extreme caution should be employed in drawing a conclusion because language development may be a function of chronological age rather than of grade level. A replication of this study at the lower school grades would prove useful in providing information to determine if there is a discrepancy in rate of language development in both ethnic groups.

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TABLE 1

RESULTS OF ANALYSIS OF VARIANCE BETWEEN

MEXICAN-AMERICAN AND AFRO-AMERICAN GROUPS

| VARIABLE | GRADE EQUIVALENTS | | | |
|---|---|---|---|---|
| | Mexican-American | Afro-American | F Ratio | P. |
| California Short Form Mental Maturity | | | | |
| Total | 88.78 | 87.84 | .065 | .80 |
| Language | 86.62 | 88.13 | .244 | .63 |
| Non-Language | 95.26 | 91.53 | .715 | .59 |
| New Developmental Reading Tests | | | | |
| General Comprehen. | 5.8 | 5.6 | .176 | .68 |
| Basic Read. Voc. | 5.9 | 6.1 | 1.156 | .29 |
| Read. for Info. | 5.8 | 5.4 | 1.734 | .19 |
| Read. for Refer. | 5.6 | 5.6 | .040 | .84 |
| Read. for Interp. | 6.1 | 5.7 | .203 | .66 |
| Read. for Apprec. | 6.1 | 6.1 | .475 | .50 |
| Silent Reading Diagnostic Tests | | | | |
| Words in Isolation | 4.5 | 5.0 | 1.084 | .30 |
| Words in Context | 4.3 | 4.3 | .291 | .60 |
| Total Right Recog. | 4.4 | 4.4 | .133 | .72 |
| Initial Errors | 4.0 | 4.0 | .376 | .55 |
| Middle Errors | 4.5 | 4.5 | .023 | .87 |
| Ending Errors | 5.5 | 5.5 | .059 | .80 |
| Orientation Errors | 4.0 | 4.0 | .126 | .72 |
| Reversible Words in Context | 5.5 | 5.5 | .150 | .70 |
| Total Visual Analy. | 6.0+ | 6.0+ | .099 | .79 |
| Total Phonetic Know. | 4.3 | 4.3 | .068 | .79 |
| Locating Elements | 5.5 | 5.5 | .065 | .79 |
| Syllabication | 6.0+ | 6.0+ | .537 | .53 |
| Locating Root Words | 5.7 | 5.6 | .118 | .73 |
| Word Elements | 4.5 | 4.3 | .985 | .68 |
| Beginning Sounds | 3.5 | 4.0 | 1.471 | .23 |
| Rhyming Sounds | 4.4 | 4.3 | .624 | .56 |
| Letter Sounds | 4.5 | 4.5 | 3.635 | .06 |
| Word Synthesis | 4.3 | 4.0 | 2.375 | .12 |

Degrees of Freedom Between Groups, 1; Group Error, 80

Mexican-American N = 50
Afro-American N = 32

TABLE 2

Chi-Square Analysis Between Mexican-American and Afro-American

Sex of Head of the Family

| | Male | Female |
|---|---|---|
| Mexican-American | 41 | 9 |
| Afro-American | 17 | 15 |

$x^2 = 7.86$
$df = 1$
$p < .01$

TABLE 3

CHI-SQUARE ANALYSIS BETWEEN MEXICAN-AMERICAN AND AFRO-AMERICAN NUMBER OF BROKEN HOMES

| | Broken Home | Non-Broken Home |
|---|---|---|
| Mexican-American | 9 | 41 |
| Afro-American | 14 | 18 |

$x^2 = 6.41$
$df = 1$
$p < .01$

TABLE 4

CHI-SQUARE ANALYSIS BETWEEN MEXICAN-AMERICAN AND AFRO-AMERICAN WELFARE ASSISTANCE

| | Welfare Assistance | No Welfare Assistance |
|---|---|---|
| Mexican-American | 8 | 42 |
| Afro-American | 5 | 27 |

$x^2 = .002$
df = 1
p = N.S.